

*CLAIM AMENDMENTS*

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1. (Previously Presented) A machine for cutting rods from rod stock, the machine comprising:

means for advancing the rod stock along a first axis;

a closed knife mounted for reciprocating movement through said axis between first and second positions, said knife having an opening (i) extending along said axis and through which the advancing rod stock passes when the knife is in said first position and (ii) radially displaced from said axis when in said second position, said knife further having an edge to shear off a rod from the rod stock upon moving toward said second position;

an air supply having a discharge port (i) positioned upstream of the knife, and (ii) in fluid communication with said opening and oriented to discharge through said opening when said knife is in said second position for ejecting the cut rod from the knife; and

a gage surface located downstream of the knife and including a position intersecting the axis such that the gage surface is adapted to engage a downstream end of the rod for gaging rods for cutting.

2. (Withdrawn) The machine as defined in claim 1 in which said air supply is positioned in alignment with the opening in the knife when the knife is in said second position.

3. (Withdrawn) The machine as defined in claim 2 in which said air supply includes a first air transport line having a discharge end aligned with the opening in the knife when the knife is in said second position.

4. (Withdrawn) The machine as defined in claim 3 further comprising a support die having an opening through which the advancing stock passes upstream of the knife, and in which said first air transport line extends through said die.

5. (Withdrawn) The machine as defined in claim 2 in which said air supply further includes a second air transport line discharging into the opening in said knife.

6. (Withdrawn) The machine as defined in claim 5 in which said second air transport line extends through said knife and is positioned to receive air from said first transport line.

7. (Previously Presented) A machine for cutting rods from rod stock, the machine comprising:

means for advancing the rod stock along a first axis;

a closed knife mounted for reciprocating movement through said axis between first and second positions, said knife having an opening (i) extending along said axis and through which the advancing rod stock passes when the knife is in said first position and (ii) radially displaced from said axis when in said second position, said knife further having an edge to shear off a rod from the rod stock upon moving toward said second position;

an air supply having a discharge port (i) positioned upstream of the knife, and (ii) in fluid communication with said opening and oriented to discharge through said opening when said knife is in said second position for ejecting the cut rod from the knife; and

further comprising a (a) gage surface (i) located downstream of said knife, (ii) facing towards said knife, and (iii) intersecting said axis to position the advancing rod stock in the knife, and (b) a contact surface (i) in fixed relation with said gage surface, (ii) extending in a direction away from said gage surface, and (iii) facing towards said second position with respect to said axis to engage a sheared rod that may be carried back in the knife as it returns to said first position, said gage surface and contact surface being connected for resilient movement away from and towards said axis as the knife returns to said first position to enable discharge of said sheared rod from the knife in said first position by the advancing stock.

8. (Previously Presented) The machine of claim 7 further comprising a gage pin having a free end defining said gage surface, and having a side portion defining said contact surface and tapering away from said axis upon progressing in a direction away from said knife.

9. (Withdrawn) A machine adapted to cut rods from rod stock, the machine comprising:

means for advancing the rod stock;

a closed knife mounted for reciprocating movement between first and second positions, said knife having an opening through which the advancing rod stock passes when the knife is in said first position, said knife being adapted to shear off a rod from the rod stock upon moving toward said second position; and

a gage surface located to position the advancing stock in the knife, said gage surface being connected for resilient movement as the knife returns to said first position to enable discharge of the sheared rod from the knife in said first position by the advancing stock.

10. (Withdrawn) The machine of claim 9 further comprising a gage pin having an end defining said gage surface, and in which the sheared rod engages the gage pin and causes said resilient movement thereof as the knife returns to said first position.

11. (Withdrawn) The machine of claim 10 further comprising a base and a cap connected to the base for resilient movement therebetween, said gage pin being operatively connected to said cap such for resilient movement therewith.

12. (Withdrawn) The machine of claim 10 in which the gage pin is formed with a tapered portion positioned for engagement with the rod as the rod approaches said first position to assist in removal of the rod from the knife.



13. (Previously Presented) A machine for cutting rods from rod stock, the machine comprising:

means for advancing the rod stock along a first axis;

a closed knife connected for reciprocating linear movement through said axis between first and second positions, said knife having an opening (i) extending along said axis and through which the advancing rod stock passes when the knife is in said first position and radially displaced from said axis when in said second position, said knife further having an edge to shear off a rod from the rod stock upon moving toward said second position;

an air supply having a discharge port (i) positioned upstream of the knife, and (ii) in fluid communication with said opening and oriented to discharge through said opening when said knife is in said second position for ejecting the sheared rod from the knife when in said second position; and

a gage pin located downstream of said knife and arranged to intersect said axis to engage the downstream end of the advancing rod stock and position the stock in the knife,

the gage pin being connected for resilient linear movement away from and towards said axis and with the knife as the knife returns to said first position to enable discharge of a sheared rod from the knife by the advancing stock with the knife in said first position.

14. (Previously Presented) The machine of claim 13 further comprising a base located downstream of the knife and a cap connected to the base for resilient movement towards and away from said axis, said gage pin passing between said base and said cap such that said resilient movement of the cap established said resilient movement of the gage pin.

15. (Previously Presented) The machine of claim 13 in which the gage pin is formed with a tapered portion facing generally towards said second position with respect to said axis for engagement with the rod as the rod approaches said first position to assist in removal of the rod from the knife.

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16. (Previously Presented) The machine of claim 13 further comprising a stationary support die having an opening aligned with the opening in said knife when in said first position and through which the advancing rod stock passes upstream of the knife, and having said discharge port aligned with the opening in the knife when the knife is in said second position.

17. (New) The machine of claim 1, wherein the discharge port is aligned to discharge generally parallel to said axis.

18. (New) The machine of claim 1, wherein the discharge port is arranged vertically below the gage surface and the axis.

19. (New) The machine of claim 1, wherein the discharge port is smaller in area than the opening of the closed knife.

20. (New) The machine of claim 1, further comprising secondary mechanical abutment means for ejecting the cut rods when the air supply fails to eject the cut rod.

CI Concluded